

Segregation and the SAT

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Given the centrality of SAT scores to college admissions decisions, identifying the sources of race gaps in scores is essential for eliminating the gaps within the time frame established by Grutter v. Bollinger.¹ This Article uses data from an eighteen-year multimethod case study of educational reform in North Carolina's Charlotte-Mecklenburg School District to explore how school- and classroom-level segregation contribute to the black-white race gap in SAT scores. Findings demonstrate that segregated minority schools and classrooms have adverse consequences for the SAT scores of students who learn in them. This is because even within a "desegregated" school system, formal and informal school-based opportunities to learn the material that appears on the test, as well as opportunities to prepare for taking the SAT, differ by the racial composition of the schools and by the academic tracks in which students learn. The findings demonstrate that the deep structure of racial privilege in public education has endured fifty years after Brown v. Board of Education.² They also raise questions about the validity and fairness of high-stakes decisions based on standardized tests if the opportunities to learn the materials on these tests remain linked to the racial composition of the schools and the tracks or ability groups in which students learn.

I. INTRODUCTION

Grutter v. Bollinger set the timetable for eliminating the need for affirmative action in college admissions at twenty-five years.³ If the need for affirmative action is to disappear within that time frame, public policies and institutions must identify and eradicate the sources of the race gap in higher education eligibility. One area of concern is persistent racial and ethnic differences in SAT scores. Nationally, the black-white gap in scores for the

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¹ *Grutter v. Bollinger*, 539 U.S. 306, 310 (2003).

² *Brown v. Bd. of Educ.*, 349 U.S. 294 (1955).

³ *Grutter*, 539 U.S. at 310.

verbal and math components of the exam is nearly 100 points.⁴ Race gaps are problematic because the SAT remains an essential element of the college admission process. Students, parents, educators, and admissions officers accept the proposition that SAT scores reflect some combination of students' cumulative efforts, achievement, and prior learning. The research findings presented in this Article indicate that another factor, namely the racial composition of the schools and classrooms in which a student learns, contributes significantly to SAT scores.

The sources of the race gaps in K-12 achievement have received sustained scholarly attention for decades.⁵ By comparison, scholarly attention

⁴ COLLEGE BOARD, A PROFILE OF SAT PROGRAM TEST TAKERS (2003), *available at* http://www.collegeboard.com/prod_downloads/about/news_info/cbsenior/yr2003/pdf/2003_TOTALGRP_PRD.pdf.

⁵ The general literature on the race gaps in achievement is too large to summarize in this Article. Readers interested in these topics may find the following resources helpful. For a comprehensive review of social science research on the race gap, see Roslyn A. Mickelson, *When are Racial Disparities in Education the Result of Racial Discrimination? A Social Science Perspective*, 105 TCHRS. C. REC. 1052, 1056-66 (2003) (identifying how institutions, state actors, and individuals contribute to racial discrimination in education through conscious and unconscious actions, attitudes, and ideologies). Changes in the race gap are discussed in Larry V. Hedges & Amy Nowell, *Black-White Test Score Convergence Since 1965*, in THE BLACK-WHITE TEST SCORE GAP 149 (Christopher Jencks & Meredith Phillips eds., 1998) (concluding that socioeconomic differences explain some of the racial differences in test scores and finding that certain social policies could further reduce the importance of family background for academic success); Larry V. Hedges & Amy Nowell, *Changes in the Black-White Gap in Achievement Test Scores*, 72 SOC. OF EDUC. 111 (1999) (asserting that much of the black-white gap may be attributed to the differences in social class between blacks and whites). For discussion of the debate over IQ as a source of the achievement gap, see CLAUDE S. FISHER ET AL., *INEQUALITY BY DESIGN: CRACKING THE BELL CURVE MYTH* (1996) (concluding that the achievement gap is primarily the result of social policies, educational practices, and environmental factors); Arthur Jensen, *How Much Can We Boost IQ and Scholastic Achievement?* 39 HARV. EDUC. REV. 1 (1969) (arguing that race differences in achievement scores are the result of intelligence differences between blacks and whites). School characteristics that influence the race gap in achievement are discussed generally in JAMES COLEMAN ET AL., *EQUALITY OF EDUCATIONAL OPPORTUNITY* (1966) (showing that school characteristics have greater effects on student learning than do students' own family and individual characteristics and finding that blacks attending desegregated schools fared better than those who remained in segregated minority schools); WILLIAM DARITY, JR. ET AL., *NORTH CAROLINA DEPT. OF PUBLIC INSTRUCTION, INCREASING OPPORTUNITY TO LEARN VIA ACCESS TO RIGOROUS COURSES AND PROGRAMS: ONE STRATEGY FOR CLOSING THE ACHIEVEMENT GAP FOR AT-RISK AND ETHNIC MINORITY STUDENTS* (2001) (concluding that the underidentification of disadvantaged minorities for academically gifted programs in the lower grades contributes to a continuing race gap once students enter high school); Ronald Ferguson, *Can Schools Narrow the Black-White*

to the race gaps in SAT scores is smaller, but growing.⁶ This Article adds to

Test Score Gap?, in THE BLACK-WHITE TEST SCORE GAP 318 (Christopher Jencks & Meredith Phillips eds., 1998) (concluding that because black children are disproportionately placed in lower ability groups, negative effects of ability grouping affect disproportionately more black than white students and increase the black-white achievement gap); Meredith Phillips et al., *Does the Black-White Test Score Gap Widen After Children Enter School?*, in *id.* at 229 (arguing that policies should be implemented to help black and white children enter school at the same level of readiness and finding that initial differences in children's socioeconomic status is an insufficient explanation of the race gap); Linda Darling-Hammond, *Teacher Quality and Student Achievement: A Review of State Policy Evidence*, 8 EDUC. POL'Y ANALYSIS ARCHIVES 1 (2000), available at <http://epaa.asu.edu/epaa/v8n1/> (demonstrating that increased investment in quality teachers leads to increased student performances and finding that poor and minority students have less access to the best qualified teachers); Maureen T. Hallinan, *Diversity Effects on Student Outcomes: Social Science Evidence*, 59 OHIO ST. L.J. 733 (1998) (concluding that institutional support of a diverse student body benefits all students); Eric Hanusheck et al., *New Evidence About Brown v. Board of Education: The Complex Effects of School Racial Composition on Achievement* (Nat'l Bureau of Econ. Research, Working Paper No. 8741, 2002), available at <http://papers.nber.org/papers/w8741.pdf> (showing that racial segregation has a negative effect on black students' achievement and teacher expectations). For discussions of community and social structural forces that contribute to the race gap in achievement, see CONSEQUENCES OF GROWING UP POOR (Greg J. Duncan & Jeanne Brooks-Gunn eds., 1997) (articulating how poverty negatively affects children's communities, families, schools, and recreational opportunities); ANNETTE LAREAU, UNEQUAL CHILDHOODS: CLASS, RACE, AND FAMILY LIFE (2003) (demonstrating how social class dynamics differentially shape the childhood experiences of middle-class and working-class youth); JOHN U. OGBU, BLACK AMERICAN STUDENTS IN AN AFFLUENT SUBURB: A STUDY OF ACADEMIC DISENGAGEMENT (2003) (explaining why middle class black and white students in Shaker Heights, Ohio approach schooling differently and explaining how these differences affect the race gap in students' educational outcomes); MELVIN OLIVER & THOMAS SHAPIRO, BLACK WEALTH/WHITE WEALTH (1995) (showing that stark wealth differences between race groups contribute to problems with intergenerational status maintenance for blacks); James W. Ainsworth-Darnell & Douglas B. Downey, *Assessing the Oppositional Culture Explanation for Racial/Ethnic Differences in School Performance*, 63 AM. SOC. REV. 536, 536-53 (1998) (arguing that there are no important attitudinal differences between blacks and whites that support claims that cultural differences impact educational achievement); Sanford Dornbusch et al., *Community Influences on the Relation of Family Status to Adolescent School Performance: Differences Between African-American and Non-Hispanic Whites*, 99 AM. J. OF EDUC. 543 (1991) (comparing the achievement of high income students from the United States with other nations' high income students in order to demonstrate the relationship between educational funding, student poverty, and achievement); Larry E. Suter, *Is Student Achievement Immutable? Evidence from International Studies on Schooling and Student Achievement*, 70 REV. OF EDUC. RES. 529 (2000) (showing the role that family background plays in achievement by using international achievement data).

⁶ Whether SAT scores reflect students' social class and cultural background, family wealth, math and verbal reasoning skills, and/or have predictive validity for freshmen's grades or college graduation are subjects of intense debate. See generally WILLIAM G.

that scholarly literature with findings from an eighteen-year longitudinal case study of educational reform in North Carolina's Charlotte-Mecklenburg Schools (CMS). The discussion focuses on the effects of the racial composition of the district's public high schools and on the racial composition of the academic tracks within them. It analyzes how these organizational features influence students' opportunities to learn materials covered on the SAT and students' formal and informal opportunities to prepare for the test. The CMS district offers a unique opportunity to examine these issues because of its role in the history of school desegregation. CMS gave rise to the 1971 decision in *Swann v. Charlotte-Mecklenburg Board of Education* that permitted mandatory busing to be used as a remedy for segregation.⁷

Although CMS was widely regarded as a desegregation model,⁸ over the thirty-one years in which it was under court orders to desegregate, the school system struggled, with varying degrees of success, to implement *Swann*. From the 1970s through the mid-1980s, the vast majority of CMS schools were racially balanced.⁹ By the end of the 1980s, some schools in the central

BOWEN & DEREK BOK, *THE SHAPE OF THE RIVER: LONG-TERM CONSEQUENCES OF CONSIDERING RACE IN COLLEGE AND UNIVERSITY ADMISSIONS* (1998) (arguing that affirmative action in higher education enhances the education of all students through the diversity it engenders); JAMES CROUSE & DALE TRUSHEIM, *THE CASE AGAINST THE SAT* (1988) (foreshadowing many of the arguments that question the validity, reliability, and unintended social consequences of the SAT); NICHOLAS LEMANN, *THE BIG TEST: THE SECRET HISTORY OF THE AMERICAN MERITOCRACY* (1999) (providing a social history of the creation of the College Board and the SAT); *RETHINKING THE SAT: THE FUTURE OF STANDARDIZED TESTING IN UNIVERSITY ADMISSIONS* (Rebecca Zwick ed., 2002) (presenting data that raise questions about the historical purpose of the tests for college admissions, the predictive validity of SAT scores, and whether such scores should continue to be used in college admissions); Aaron M. Pallas & Karl L. Alexander, *Sex Differences in Quantitative SAT Performance: New Evidence on the Differential Coursework Hypothesis*, 20 AM. EDUC. RES. J. 165 (1983) (indicating that the number and rigor of high school math courses is a determinant of SAT performance); Brian Powell & Lala Carr Steelman, *Bewitched, Bothered, and Bewildering: The Use and Misuse of State SAT and ACT Scores*, 66 HARV. EDUC. REV. 27 (1996) (arguing that state-by-state differences in SAT and ACT scores must be corrected for compositional and demographic factors before comparisons across states can be meaningful).

⁷ *Swann v. Charlotte-Mecklenburg Bd. of Educ.*, 402 U.S. 1, 15 (1971).

⁸ See generally FRYE GAILLARD, *THE DREAM LONG DEFERRED* (1988); DISMANTLING DESEGREGATION: THE QUIET REVERSAL OF *BROWN V. BOARD OF EDUCATION* (Gary Orfield & Susan E. Eaton, eds., 1996); STEPHEN S. SMITH, *BOOM FOR WHOM? EDUCATION, DESEGREGATION, AND DEVELOPMENT IN CHARLOTTE* (2004).

⁹ There is considerable variation in both scholarly and legal literature in the usage of terms to describe the racial composition of schools. The designation of a school as desegregated (racially balanced) or segregated (racially imbalanced black or racially imbalanced white) typically is not based on an absolute standard; rather, these labels

city and distant suburbs began to become racially imbalanced. This trend accelerated after 1992, when CMS replaced most mandatory desegregation with voluntary desegregation strategies, primarily in the form of magnet schools. While the majority of all CMS students were educated in desegregated schools for large portions of their public school careers, beginning in the late 1980s, when some schools again became racially imbalanced, more CMS students spent a portion of their educations in racially imbalanced schools. Given this history, CMS serves as a strategic case study for the questions investigated in this Article.

Since CMS began desegregating, educational outcomes for all students have improved.¹⁰ However, this improvement has an underside: race gaps

reflect an evaluation of the racial composition of a school relative to the overall racial composition of its school district, and (in the case of CMS), the school system's long-term practice and judicial orders. *Swann v. Charlotte-Mecklenburg Bd. of Educ.*, 379 F. Supp. 1102, 1104 (W.D.N.C. 1974); *Capacchione v. Charlotte-Mecklenburg Sch.*, 57 F. Supp. 2d 228, 244, 246 (W.D.N.C. 1999).

In this Article, the terms "segregation," "desegregation," and "resegregation" describe the historical, social, and educational significance of differences in schools' (and classrooms') racial compositions. The terms "racially imbalanced" and "racially balanced" describe schools relative to a $\pm 15\%$ variance from the district-wide percentage black enrollment in a given year. Following CMS's long-standing practice, an elementary school whose black proportion of the population is greater than 15% above the school district's black proportion of the population is considered to be racially imbalanced black; a school with a black proportion of the population less than 15% below the school district's black proportion of the population is considered to be racially imbalanced white; all other elementary schools are considered racially balanced or desegregated schools. Secondary schools with black populations that exceed $\pm 15\%$ variance from 50% black are considered racially imbalanced schools while those secondary schools whose populations are less than 25% black are considered racially imbalanced white. For analyses of within-school segregation of high school academic courses, the study uses the same $\pm 15\%$ bandwidth standard (relative to the individual school's racial composition) and designates a classroom as racially imbalanced black if the black proportion of students in it exceeds the school's black proportion of students by 15%, and so on.

¹⁰ Early empirical social science research on the effects of desegregation on achievement was equivocal. Some researchers found no positive effects. *See generally* DAVID J. ARMOR, *FORCED JUSTICE: SCHOOL DESEGREGATION AND THE LAW* 83 (1995); Thomas D. Cook, *What Have Black Children Gained Academically From School Integration?: Examination of the Meta-Analytic Evidence*, in THE NAT'L INST. OF EDUC., U.S. DEP'T. OF EDUC., *SCHOOL DESEGREGATION AND BLACK ACHIEVEMENT* 9 (1984) (reporting on a National Institute of Education panel's conclusions regarding evidence from multiple studies on children's educational achievement); NANCY ST. JOHN, *SCHOOL DESEGREGATION: OUTCOMES FOR CHILDREN* (1975) (summarizing evidence from early research studies of desegregation). Other social scientists found evidence that desegregation increased black students' verbal scores. *See generally* ROBERT CRAIN & RITA E. MAHARD, *Desegregation and Black Achievement*, 43 LAW & CONTEMP. PROBS. 17, 18–20 (1978). Borman et al. found evidence that segregated schools in Florida impeded academic achievement on standardized tests. Kathryn M. Borman et al.,

persist in all measures of school outcomes, including SAT scores.¹¹ Using 1997 survey data and holding individual student and family background factors constant, this Article examines the contributions of school and classroom racial composition to the race gap in SAT scores in CMS. It demonstrates that, in fact, segregated schools and classes negatively affect SAT scores. But by necessity, a thorough examination of the effects of school and classroom racial composition on the race gap in SAT scores involves more than establishing correlations. A full examination illuminates how school and classroom racial composition affect scores. The results of

Accountability in a Postdesegregation Era: The Continuing Significance of Racial Segregation in Florida's Schools, 41 AM. EDUC. RES. J. 605 (2004) (concluding that segregated learning environments impeded academic achievement on Florida's standardized tests). Using data from Texas, Hanushek et al. found that segregation has a negative effect on black students, especially the most academically capable ones. Eric A. Hanushek, John F. Kain, & Steven G. Rivkin, *New Evidence About Brown v. Board of Education: The Complex Effects of School Racial Composition on Achievement*, (Nat'l Bureau of Econ. Research, Working Paper No. 8741, 2002), available at <http://www.nber.org/papers/w8741>. Recent syntheses of extant research conclude that diverse public education benefits all students. See Jomills H. Braddock II & Tamela McNulty Eitle, *School Desegregation: Research, Policy, Practice, and Future Direction*, in HANDBOOK OF RESEARCH ON MULTICULTURAL EDUCATION (James A. Banks ed., 2003) (indicating how school desegregation stimulates positive cognitive and social psychological outcomes for majority and minority youth); Hallinan, *supra* note 5 (finding that social science research on diversity suggests positive effects on student outcomes); Willis Hawley, *Diversity and Educational Quality* (Mar. 28, 2002) (unpublished manuscript, College of Education, University of Maryland, College Park) (draft on file with author) (summarizing extant research showing how diverse learning environments assist achievement). According to Jack Boger, three federal courts of appeal have found that the Equal Protection Clause of the Fourteenth Amendment permits school boards to consider race in K-12 student assignment. E-mail from Jack Boger, Wade Edwards Distinguished Professor of Law and Deputy Director of the Center for Civil Rights, University of North Carolina School of Law, to Roslyn A. Mickelson, Department of Sociology, University of North Carolina Charlotte (May 27, 2005, 16:11:27 EST) (on file with author); see *Comfort v. Lynn Sch. Comm.*, 418 F.3d 1, 23 (1st Cir. 2005) (en banc) (upholding a race-conscious transfer system), *cert. denied*, 126 S. Ct. 798 (2005); *McFarland v. Jefferson Cty. Pub. Sch.*, 416 F.3d 513, 514 (6th Cir.) (per curiam) (affirming the district court's upholding of a race-conscious student assignment plan), *reh'g denied*, 2005 U.S. App. LEXIS 22940 (6th Cir., Oct. 21, 2005); *Parents Involved in Cmty. Schs. v. Seattle Sch. Dist. No. 1*, 426 F.3d 1162 (9th Cir. 2005) (en banc) (rejecting a Ninth Circuit panel's decision and upholding Seattle's race-conscious assignment procedures). On the other hand, the key vote in *Grutter* came from retired Justice O'Connor. It remains to be seen whether Chief Justice Roberts and Justices Alito, Scalia, and Thomas will unite and muster a fifth vote from Justice Kennedy to overturn *Grutter* or to limit its reach to K-12 schooling.

¹¹ Stephen S. Smith & Roslyn A. Mickelson, *All That Glitters is Not Gold: School Reform in Charlotte, North Carolina*, 22 EDUC. EVALUATION & POL'Y ANALYSIS 101, 109 (2000).

this case study show that segregation in K-12 education contributes to the race gap in SAT scores in three ways: (1) the track level of academic courses—indicating classroom-level segregation—has a direct effect on SAT scores, North Carolina standardized achievement test scores, and grade point averages; (2) elementary school segregation has a direct negative effect on SAT scores, high school track placement, and North Carolina standardized achievement test scores; and (3) the racial composition of the high school itself has a direct effect on opportunities to prepare for the test, as well as the SAT test score itself.

These findings raise questions about the degree to which SAT scores indicate “merit” for admission to college, versus the extent to which they mirror the effects of social class and race privileges that remain in K-12 public schools fifty years after *Brown* and roughly twenty-five years after *Swann*. More broadly, the findings suggest the need for great caution in making high-stakes decisions, such as college admissions, based on standardized tests, when the opportunities to learn the materials and prepare for the tests are linked to the racial composition of schools and classrooms. Finally, the analysis confirms the enduring nature and deep structure of race privilege that contributes to racial inequality in access to higher education.

This Article is divided into nine sections: (I) this introduction; (II) an historical overview of the Charlotte-Mecklenburg Schools (CMS) since 1971; (III) an overview of the desegregation that has occurred in CMS; (IV) an explanation of de jure and de facto segregation in CMS; (V) a description of this study’s data sources and methodology; (VI) a presentation and discussion of the study’s findings and analytical results; (VII) a discussion of how access to SAT preparation in CMS is racially-correlated; (VIII) a consideration of the implications of these findings for meeting *Grutter*’s challenge to eliminate the necessity for affirmative action in higher education admissions within twenty-five years; and (IX) an appendix that provides a detailed explanation of the study’s methods and data.

II. HISTORICAL OVERVIEW

The Charlotte-Mecklenburg School District is a county-wide system. The district encompasses 530 square miles and includes the city of Charlotte, and the towns of Davidson, Mint Hill, Matthews, Pineville, Cornelius, and Huntersville. Mecklenburg County is coterminous with the school system’s boundaries. In 1971, at the time of the Court’s original ruling in *Swann*, CMS was a district of approximately 84,000 students, of whom 25% were black and nearly 75% were white.¹² Because so very few students were identified

¹² CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, MONTHLY REPORTS (1970).

as Latino, Asian, Native American, or other ethnicities, CMS categorized students as being either black or white/other.

Between the early 1970s, when CMS began to wrestle with the mandate to desegregate, and the turn of the twenty-first century, the economy and population of the City of Charlotte and of Mecklenburg County changed significantly. Like other areas in the South, Charlotte's population grew rapidly. By 2004, the city had nearly 600,000 residents, and the surrounding metropolitan area had become home to over 1,000,000 people.¹³

In recent years, Mecklenburg County's booming financial, insurance, and real estate sectors stimulated economic growth and development in engineering, high tech manufacturing, electronics, and information systems, while textile manufacturing, transportation, and poultry processing diminished in relative importance.¹⁴ The City of Charlotte, for instance, is now the second largest financial center in the United States and is headquarters for Bank of America and Wachovia, two of the nation's largest banks.¹⁵

Two trends in population growth have transformed both CMS and Mecklenburg County. During the last three decades, middle-class families, a majority of whom are white non-southerners, have relocated to the area in response to increased demand for professional and financial services. Large numbers of the families have settled in the county's outlying suburbs. During the past ten years, ethnic minorities—especially Latino and Asian immigrant families—have moved to the region and have settled in the county's urban core. Latino immigrants are the largest ethnic group among new residents. Since 1995, these two demographic trends have reshaped Mecklenburg County, making it increasingly resemble many other large metropolitan areas where low-income people of color live in the urban core and middle-class white families reside in the suburbs. CMS's student population reflects the county's growing ethnic diversity. As of 2005, among the 121,640 students who attend 148 CMS schools, 43% are black, 39.7% are white, 10.4% are Latino, 4.2% are Asian, and 2.7% are from Native American and other ethnic groups.¹⁶

¹³ Michael Gordon & Adam Bell, *Charlotte Region Just Swell*, CHARLOTTE OBSERVER, June 30, 2005, at 1B.

¹⁴ Carol A. Ray & Roslyn A. Mickelson, *Corporate Leaders, Resistant Youth, and School Reform in Sunbelt City: The Political Economy of Education*, 37 SOC. PROBS. 178, 180 (1990); see generally Roslyn A. Mickelson & Carol A. Ray, *Fear of Falling From Grace: The Middle Class, Downward Mobility, and School Desegregation*, 10 RES. IN SOC. OF EDUC. & SOCIALIZATION 207 (1994).

¹⁵ SMITH, *supra* note 8, at 2.

¹⁶ CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, FAST FACTS (2005), available at <http://www.cms.k-12.nc.us/discover/pdf/fastfactssheet.pdf>.

III. DESEGREGATION IN THE CHARLOTTE-MECKLENBURG SCHOOLS

CMS is historically significant because it was the first district (1) to use mandatory cross-town busing; (2) to articulate racial goals for student assignments to schools; (3) to establish faculty and staff ratios at each school; and (4) to pair schools in racially distinct neighborhoods, all as remedies to segregation.¹⁷ From roughly 1974–1992, the district relied heavily on mandatory intradistrict busing to achieve a racial balance.¹⁸

The broad social and political coalition supporting desegregation began to crumble in the late 1980s. Responding to a mounting wave of discontent among suburban newcomers, Charlotte's civic and business leaders began to pressure the school board and administrative leadership to end busing for desegregation.¹⁹ In 1992, most of the mandatory busing plan was replaced by other desegregation strategies.²⁰ Most notable was a program of controlled choice among magnet schools, with an enrollment at each magnet school approaching the previously targeted ratio of 40% black and 60% white and other ethnic groups.²¹

In 1997, a white family named Capacchione sued CMS, claiming that their daughter's right to equal protection had been violated because a magnet school denied her admission on account of the magnet plan's racial controls.²² That lawsuit led to a reopening of the inactive *Swann* case.²³ Attorneys representing the class of black students in *Swann*, supported by the

¹⁷ *Swann v. Charlotte-Mecklenburg Bd. of Educ.*, 402 U.S. 1, 22–31 (1971); Jack Boger, A Quick Look at the Remedial Responsibilities Under the Federal Constitution for School Districts Found to Have Practiced De Jure or Intentional Segregation of Their Public Schools—and at Judicial Considerations of the Relation Between Continuing School Segregation and Private Housing Choices in Formerly Segregated School Districts 1 (May 2, 2002) (unpublished manuscript on file with author).

¹⁸ DAVISON M. DOUGLAS, *READING, WRITING, AND RACE: THE DESEGREGATION OF THE CHARLOTTE SCHOOLS* 141 (1995); SMITH, *supra* note 8, at 73.

¹⁹ Ray & Mickelson, *supra* note 14, at 181; SMITH, *supra* note 8, at 101.

²⁰ CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, MINUTES OF THE SCHOOL BOARD MEETING (Mar. 31, 1992) (on file with author).

²¹ COMMITTEE OF TWENTY-FIVE, REPORT ON SCHOOL ASSIGNMENT (1994).

²² *Capacchione v. Charlotte-Mecklenburg Bd. of Educ.*, 57 F. Supp. 2d 228, 239 (W.D.N.C. 1999). Stephen S. Smith provides a rich description of the legal, political, and ideological struggles over desegregation in Charlotte that led to the reactivation of *Swann*. See generally SMITH, *supra* note 8. Smith served as an expert witness for the black plaintiffs during the trial in the Western District of North Carolina. Smith's role as expert witness facilitated his access to certain data and documents used in the writing of his book, *Boom for Whom?* SMITH, *supra* note 8, at 28.

²³ *Capacchione*, 57 F. Supp. 2d at 232; see also *Belk v. Charlotte-Mecklenburg Bd. of Educ.*, 233 F.3d 232, 247–48 (4th Cir. 2000).

NAACP-LDF, moved to intervene in *Capacchione* and to have the case dismissed as an improper collateral attack on the desegregation order. Attorneys for the school system also filed a motion to dismiss *Capacchione* on the same grounds.²⁴ The attorneys representing the black students also moved, in the alternative, to reopen *Swann* and consolidate the two cases together for trial, alleging that CMS had not fully complied with the desegregation orders and that court action was needed.²⁵

In March 1998, the district court denied the two motions to dismiss and granted the motion to reopen *Swann* in order to consolidate it with the *Capacchione* trial for the determination of whether CMS had attained unitary status.²⁶ The black students then moved to substitute, as class representatives in *Swann*, the Belk and Collins families, who did have children in CMS, for the original *Swann* plaintiffs, whose children had long since reached adulthood and left CMS. That motion was granted²⁷ and *Swann* went forward under the new name of *Belk v. Charlotte-Mecklenburg Board of Education*.²⁸

A group of white parents seeking to end the *Swann* desegregation order moved in the summer of 1998 to intervene as defendants in the consolidated cases, arguing that the school board was hiding behind the desegregation order to unconstitutionally assign students by race and had failed to represent the intervenors' legal interests. The white parents sought a declaration of unitary status to end the desegregation orders.²⁹

The court denied a motion to dismiss the *Capacchione* lawsuit that was based on the Capacchione family's moving to California shortly after filing suit.³⁰ The court did note that the Capacchiones would have standing only to

²⁴ See *Capacchione v. Charlotte-Mecklenburg Bd. of Educ.*, 179 F.R.D. 177, 178-79 (W.D.N.C. 1998). Although the court denied the *Swann* plaintiffs' and the school boards' motion to dismiss, which had been premised on the collateral challenge argument, it did reactivate the *Swann* case and consolidate the two cases. *Id.*

²⁵ *Id.* at 178; see SMITH, *supra* note 8, at 159.

²⁶ *Capacchione*, 179 F.R.D. at 179. In 1999, the author served as an expert witness for the Charlotte-Mecklenburg Schools, the defendant in the consolidated *Belk* and *Capacchione* cases.

²⁷ See *Capacchione*, 186 F.R.D. 338, 339 (W.D.N.C. 1999). "After an attorney for Capacchione observed that James E. Swann . . . no longer had any children in the school system, the Court permitted the *Swann* Plaintiffs to substitute . . . [Terry Belk] on behalf of his minor children attending schools in the district." *Id.*

²⁸ See *Belk*, 233 F.3d 232.

²⁹ *Capacchione v. Charlotte-Mecklenburg Bd. of Educ.*, 57 F. Supp. 2d 228, 240 (W.D.N.C. 1999).

³⁰ See *id.* The "[c]ourt granted in part and denied in part a Motion for Summary Judgment filed by CMS. The [c]ourt found that Capacchione no longer had standing to

recover compensatory relief from CMS.³¹ In order to maintain standing to pursue injunctive and declaratory remedies, the defendant-intervenors carried the case forward.

After a lengthy bench trial in the spring of 1999, the district court declared in September 1999 that CMS was a unitary school district, finding that the magnet program was unconstitutional and beyond the scope of the original desegregation order.³² The court barred CMS from considering race in any aspect of its operations, and awarded attorney's fees and nominal damages to the Capacchione family and the defendant-intervenors.³³

In November 2000, a three-judge panel of the United States Court of Appeals for the Fourth Circuit overturned the lower court's holding that CMS had reached unitary status.³⁴ Almost a year later, the Fourth Circuit, sitting en banc, reversed the three-judge panel and affirmed the district court's 1999 decision that CMS had achieved unitary status.³⁵ A majority of the en banc court ruled, however, that the use of race in the magnet program was not unconstitutional while the school district was under a court order to desegregate.³⁶ A majority of the judges on the court also held that, absent a constitutional violation, Capacchione and the defendant-intervenors were not entitled to attorney's fees.³⁷ The case was appealed to the U.S. Supreme Court, which denied the black plaintiff's certiorari petition on the issue of unitary status³⁸ and denied the white plaintiffs' certiorari petition regarding the issue of attorney's fees.³⁹

In August 2002, CMS implemented its new school assignment plan that gave parents the choice of sending their children to neighborhood schools or magnet schools generally located within the sector of the county in which the

assert injunctive or declaratory relief but found that Capacchione still had standing to pursue compensatory relief." *Id.*

³¹ *Id.*

³² *Id.* at 232.

³³ *Id.* at 290-93.

³⁴ *Belk v. Charlotte-Mecklenburg Bd. of Educ.*, 233 F.3d 232, 277 (4th Cir. 2000), *rev'd en banc*, 269 F.3d 305 (4th Cir. 2001).

³⁵ *Belk*, 269 F.3d at 311 (7-4 decision), *cert. denied*, 535 U.S. 986 (2002).

³⁶ *Belk*, 269 F. 3d at 311 (6-5 decision).

³⁷ *Id.* "The district court's desegregation orders in this case can fairly be read to encourage, rather than foreclose, the conduct in which the school board here engaged." *Id.* at 354 (Wilkinson, C.J., concurring in part); *see also id.* at 370 (Gribbon Motz & King, JJ., separate opinion) (finding that "[i]t would be the rankest injustice to find the Board liable for a constitutional violation, and subject to . . . enormous attorney's fees, when its expanded magnet schools program was simply a good faith attempt to comply with the [federal courts'] desegregation orders").

³⁸ *Belk*, 535 U.S. at 986.

³⁹ *Capacchione v. Charlotte Mecklenburg Bd. of Educ.*, 535 U.S. 986 (2002).

family lived.⁴⁰ Within the first year, suburban neighborhood schools became seriously overcrowded while many central city schools became underutilized. This imbalance was due largely to suburban families' opting to enroll their children in the extant neighborhood schools, schools whose facilities were located to accommodate a desegregation plan rather than a neighborhood school assignment plan.

In addition to the over- and underutilization of facilities, after two years of the neighborhood school-based pupil assignment plan, 22.6% fewer elementary schools, 7.4% fewer middle schools, and 20.6% fewer high schools were racially balanced.⁴¹ In the third year, suburban residents in the northern and southern sections of Mecklenburg County began a grassroots movement to deconsolidate CMS into three separate districts. This effort, which has the support of 54% of the county's white residents and 36% of the county's black residents,⁴² would create a lower-wealth, majority-minority district sandwiched between two prosperous, overwhelmingly white districts to the north and south.

IV. FIRST- AND SECOND-GENERATION SEGREGATION IN CMS

The accelerating resegregation of CMS highlights the importance of examining the effects of school- and classroom-level segregation on students' academic outcomes. Conceptually, segregation between schools can be considered first-generation segregation, while segregation within schools can be understood as second-generation segregation.⁴³ After many

⁴⁰ CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, BOARD RESOLUTION (Apr. 3, 2001).

⁴¹ Roslyn A. Mickelson & Stephanie Southworth, *When Opting Out is Not a Choice: Implications for NCLB's Transfer Option from Charlotte, NC*, 38 EQUITY & EXCELLENCE IN EDUC. 249, 256, 257 (2005).

⁴² Jonathan Tilove, *Pressed by a New Invasion of Yankees, Schools of the South Resegregate*, NEWSHOUSE NEWS SERVICE, June 30, 2005, at 1.

⁴³ Janet Eyster et al., *Resegregation Within Desegregated Schools*, in THE CONSEQUENCES OF SCHOOL DESEGREGATION (Christine H. Rossell & Willis D. Hawley eds., 1983) (describing how tracking and grouping processes isolate minority students into the lower academic tracks in desegregated schools); KENNETH J. MEIER ET AL., RACE, CLASS, AND EDUCATION: THE POLITICS OF SECOND GENERATION DISCRIMINATION (1989) (labeling the consequences of tracking minority youngsters into lower level courses in desegregated schools as second generation segregation); Amy S. Wells & Robert L. Crain, *Perpetuation Theory and the Long-Term Effects of School Desegregation*, 64 REV. OF EDUC. RES. 531 (1994) (reviewing the research on the short- and long-term outcomes of first- and second-generation segregation); Kevin G. Welner & Jeannie Oakes, *(Li)Ability Grouping: The New Susceptibility of School Tracking Systems to Legal Challenges*, 66 HARV. EDUC. REV. 451, 454-57 (1996) (providing a history and typology

racially dual school systems began to desegregate, several types of second-generation segregation arose. Ability grouping, curricular tracking, special education, and gifted programs proliferated in the newly desegregated schools. While students assigned to higher ability groups, placed in accelerated tracks, or identified for gifted programs were more likely to be white and middle class than low-income, black, or Latino, students assigned to lower ability groups, non-college-bound tracks, and to special education programs were more likely to be black, Latino, and working-class.⁴⁴ Whatever their purported academic benefits,⁴⁵ in practice, the ability groups

of court cases that deal with tracking and ability grouping in the context of desegregation).

⁴⁴ Eitle's national study of special education placement of black male students reports that they are more likely to be placed in special education if their school system is operating under a court-ordered desegregation plan. See Tamela McNulty Eitle, *Special Education or Racial Segregation: Understanding Variation in the Representation of Black Students in Educable Mentally Handicapped Programs*, 43 SOC. Q. 575 (2002).

⁴⁵ Ability grouping in elementary schools and tracking in secondary schools are widely practiced in the United States. In theory, grouping students with common abilities together for instruction enables teachers to target curricula and pedagogy to students' needs. For a discussion of the potential value of tracking, see generally TOM LOVELESS, *THE TRACKING WARS: STATE REFORM MEETS SCHOOL POLICY* (1999) (critiquing the seminal influence of Jeannie Oakes' book *KEEPING TRACK* on tracking debates during the preceding fifteen years); Maureen T. Hallinan, *Tracking: From Theory to Practice*, 67 SOC. OF EDUC. 79, 84 (1994); Chen-Lin Kulik & James A. Kulik, *Effects of Ability Grouping on Secondary School Students: A Meta-Analysis of Evaluation Findings*, 19 AM. EDUC. RES. J. 415 (1982) (summarizing tracking research that shows positive effects among secondary students); Chen-Lin Kulik & James A. Kulik, *Effects of Ability Grouping on Student Achievement*, 23 EQUITY & EXCELLENCE 22 (1987) (updating earlier summaries of tracking research showing positive effects on student outcomes). For general discussion of how ability grouping and tracking work in practice, rather than in principle, see AARON J. CICOUREL & JOHN I. KITSUSE, *THE EDUCATIONAL DECISION MAKERS* (1963); see also SAMUEL R. LUCAS, *TRACKING INEQUALITY* (1999) (identifying an "unremarked" revolution whereby rigid tracking systems have been replaced with more flexible ones, albeit with largely similar equity and achievement outcomes); JEANNIE OAKES, *KEEPING TRACK: HOW SCHOOLS STRUCTURE INEQUALITY* (2005); KEVIN G. WELNER, *LEGAL RIGHTS, LEGAL WRONGS* (2001) (chronicling the policy debates concerning detracking, summarizing the legal history of this struggle, and providing case studies of community efforts to detrack); Samuel R. Lucas, *Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects*, 106 AM. J. OF SOC. 1642 (2001) (demonstrating how tracking in secondary schools effectively maintains social inequality in access to quality education by narrowing students' options at each school transition point); Samuel R. Lucas & Mark Berends, *Sociodemographic Diversity, Correlated Achievement, and De Facto Tracking*, 75 SOC. OF EDUC. 228, 332 (2002); Carolyn Riehl et al., *Rites and Wrongs: Institutional Explanations for the Student Course-Scheduling Process in Urban High Schools*, 107 AM. J. OF EDUC. 116, 117 (1999) (reporting how track placements frequently are based on factors such as seat availability, conflicting student schedules, and other organizational imperatives rather than merit and

and tracks operate in ways to ensure that white educational privileges remain largely intact even if a school itself is racially balanced.

Indeed, this is what occurred in the Charlotte-Mecklenburg Schools. Soon after it began to implement the *Swann* court order in the early 1970s, CMS instituted racially correlated tracks in its secondary schools.⁴⁶ In 1973, two years after *Swann*, the CMS administration noted in a report to the school board on the status of desegregation efforts that, among other problems arising from efforts to implement the court's order, "'ability-grouping' too frequently is de-facto resegregation."⁴⁷ And, in 1977, the Department of Health, Education, and Welfare reached a similar conclusion, ruling that CMS was ineligible for a \$922,000 grant because of within-school

academic achievement); Mindy L. Kornhaber, *Seeking Strengths: Equitable Identification for Gifted Education and the Theory of Multiple Intelligences* (1997) (unpublished Ph.D. dissertation, Harvard Univ.) (on file with author) (describing how CMS identifies elementary students for gifted and talented programs, and how actual criteria and procedures exclude many children of color from these programs).

⁴⁶ SMITH, *supra* note 8, at 81; Roslyn A. Mickelson, *Subverting Swann: First- and Second-Generation Segregation in the Charlotte-Mecklenburg Schools*, 38 AM. EDUC. RES. J. 215, 245 n.7 (2001); Roslyn A. Mickelson & Stephen S. Smith, *Race, Tracking, and Achievement Among African-Americans in a Desegregated School System: Evidence from the Charlotte-Mecklenburg Schools* (Nov. 11, 1999) (unpublished paper prepared for the Stanford Univ. Conference on Race, African Americans: Research and Policy Perspectives at the Turn of the Century) (on file with author) (chronicling the origins and context for the institution of racially correlated tracking after the commencement of cross-town busing in CMS). In 1998, Mr. William Poe, who chaired the CMS Board of Education during the early years after the *Swann* decision, stated that when whites from the prosperous "old money" neighborhood (Myers Park) desegregated, the black community's flagship high school (West Charlotte) during the mid-1970s, an optional rigorous college prep track, called the Open Program, was instituted to encourage whites to participate in desegregation. Interview with William Poe, Chairman of Charlotte-Mecklenburg Board of Education During 1971–1976 Desegregation Era, via telephone (Dec. 22, 1998). Poe recalled that the Open Program was created as an impetus for whites to enroll their kids in the school. The school board viewed the Open Program as "a sop to white people." *Id.* He explained that the implementation of this track necessitated the hiring of new chemistry, calculus, and foreign language teachers at the formerly segregated black school. According to Poe, "[w]hites needed to be assured that their children would get the same quality of education that they had received at Myers Park High School, not just the culinary and cosmetology classes offered to blacks at West Charlotte High School." *Id.* Poe acknowledged that while the new college prep track, in principle, was available to all West Charlotte students, enrollment in it was essentially limited to whites because blacks typically lacked the academic skills or prerequisite course work required for the more rigorous college prep track. *Id.*

⁴⁷ CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, PUPIL ASSIGNMENT PLAN STUDY 15 (Feb. 21, 1973) (on file with author).

segregation.⁴⁸ In 1987, a newly appointed superintendent lamented the fact that while blacks constituted 39% of the student population, they accounted for only 10.4% of those taking the highest level academic classes.⁴⁹ Twelve years later, an associate superintendent testified that her initial review of CMS test score data led her to conclude that “in CMS, we don’t teach black children.”⁵⁰

The resegregation of students via tracking in school districts operating under court-mandated desegregation plans is not unusual. For example, largely on the basis of a finding that the Washington, D.C. schools used tracking to racially resegregate students, the United States Court of Appeals for the D.C. Circuit held that the use of tracking to intentionally separate black and white students violated the Fourteenth Amendment’s guarantee of equal protection and therefore was unconstitutional.⁵¹ A federal district court reached a similar conclusion,⁵² although that decision was overturned on appeal.⁵³

V. METHODS AND DATA

The investigation of segregation’s influence on SAT scores necessarily includes an examination of first- and second-generation segregation because these two forms are strongly interrelated. The following research questions guided the analysis:

- What opportunities to learn and to prepare for the SAT does CMS provide?
- Does student race affect access to these opportunities?
- Does the racial composition of a classroom affect opportunities to learn materials tested by the SAT?
- Does the racial composition of a school affect opportunities to learn and to prepare for the SAT?

⁴⁸ Tom Bradbury, *HEW’s Mandate: Racial Balance Over Education*, CHARLOTTE NEWS, July 29, 1977, at 12A (cited in SMITH, *supra* note 8, at 276 n.73).

⁴⁹ R. Morell, *Superintendent Relic Stresses Reaching Black Children in Lower Grades*, CHARLOTTE OBSERVER, Oct. 15, 1987, at 5C.

⁵⁰ Celeste Smith, *Study: Segregated Schools Returning. Witness: “We Don’t Teach Black Children,”* CHARLOTTE OBSERVER, June 15, 1999, at 7C.

⁵¹ *Hobson v. Hanson*, 269 F. Supp. 401, 512 (D.C. Cir. 1967).

⁵² *People Who Care v. Rockford Bd. of Educ.*, 851 F. Supp. 905, 912 (N.D. Ill. 1994).

⁵³ *People Who Care v. Rockford Bd. of Educ.*, 111 F.3d 528, 536 (7th Cir. 1997); see WELNER, *supra* note 45 (providing a nuanced history of jurisprudence concerning tracking and desegregation).

These questions were answered using qualitative and quantitative data drawn from sources collected since 1987 as part of the author's ongoing case study of school reform in the Charlotte-Mecklenburg Schools. The case study's data include observations in schools, at meetings, and during public forums; archival documents from CMS; newspaper accounts; census reports; interviews with principals regarding school-level desegregation, ability grouping, and faculty and staff hiring decisions; and in-depth interviews with students, parents, educators, and civic leaders about the issues of desegregation, tracking, and equality of educational opportunity in CMS. Two surveys undertaken by the author, one involving CMS high school students and the other, involving CMS principals, were additional sources of data.

The data analyzed for this Article were drawn from the sources described below. The author triangulated the findings from these sources to increase the validity and reliability of the interpretations and conclusions that are reported in this Article.

A. Observations

From 1987–2002, observations were made at Charlotte Chamber of Commerce task force meetings and related events; events at CMS schools; community-wide public meetings and forums; and school board meetings. Observations were recorded in field notes and research journals. All notes and journal entries were transcribed.

B. High School Student Survey

A large, representative sample of 1833⁵⁴ high school seniors was surveyed in 1997. The students were enrolled in classrooms randomly selected from a list of twelfth-grade English classes in every high school within CMS. The survey included questions about students' family background, school experiences, attitudes toward education, and plans for the future. Respondents' answers were combined with electronic data provided by CMS on their grades, test scores, and educational histories.⁵⁵

⁵⁴ Denoted as (N = 1833).

⁵⁵ See *infra* APPENDIX (providing a detailed description of the research design, definitions of variables, and analytical methods).

C. CMS Principal Survey Data

A survey of CMS secondary school principals regarding the availability of SAT preparation opportunities in their schools was conducted in 1999. Information was requested on the types of SAT preparation, if any, that the school offered; the number of students enrolled; the race of the students who enrolled; characteristics of those who taught the courses; and when the courses were taught. The survey was e-mailed to principals from the school board's legal counsel's office. The response rate was 100%.⁵⁶

D. Interviews with Principals

From December 1998 to March 1999, telephone interviews were conducted with principals (mainly secondary school administrators, but also several from elementary schools). Principals were selected purposively⁵⁷ to ensure that interviewees included leaders of schools with racially balanced, racially imbalanced white, and racially imbalanced black student bodies. The principals were asked about the status of school-level desegregation; within-school resegregation via ability grouping, tracking, and identification of students for special education and gifted programs; and the school's teacher staffing and hiring practices. Notes from all interviews were transcribed.

E. Interviews with Students, Parents, and Educators

From December 1999 to March 2004, interviews were conducted with approximately 160 high school students, their parents, their teachers, and their counselors in order to gain an understanding of the secondary course selection and track placement processes. The purposive sample of interviewees was chosen to reflect the diversity of students in the district. Interviews were tape recorded and transcribed.

⁵⁶ Interviews with and surveys of principals were administered by the author while preparing to serve as an expert witness for CMS in the 1999 *Capacchione* and *Belk* trial. Expert witness status facilitated her access to educators and data about the school system. Copies of the surveys are on file with the author.

⁵⁷ A purposive sample is a nonprobability sample that includes respondents whose membership in a predefined group makes them suitable for answering the questions under investigation by the researcher. A purposive sample, like other types of nonprobability samples, is used when it is not theoretically sensible to conduct random sampling.

F. Documents and Reports

Documents and reports issued by the district were reviewed, coded, and analyzed. These documents included CMS's course offering booklets, which describe the complete high school and middle school curricula and identify course content, sequence, and prerequisites. Data retrieved electronically from the North Carolina Department of Public Instruction, the College Board, the U.S. Department of Education, and the U.S. Census Bureau also were used.

VI. FINDINGS

Students' scores on any test reflect many factors, including properties of the tests themselves, conditions under which the test is taken, a host of individual attributes and family background influences, and the opportunities to learn the formal knowledge and cognitive skills that the test measures. This Article's findings show that school and classroom segregation also influence opportunities to learn and prepare for the SAT. Findings are presented in three sections: (1) results that demonstrate that first- and second-generation segregation negatively affect SAT scores even after student characteristics and family background factors are held constant; (2) results that show how school and classroom racial composition affect students' opportunities to learn the curricular materials that appear on the SAT; and (3) results that illustrate the relationship between school racial composition and the formal and informal opportunities that CMS offers students to prepare specifically for taking the SAT exam.

A. First- and Second-Generation Segregation Effects on SAT Scores

The high school survey data permit an examination of the effects of first- and second-generation segregation on SAT scores. The two measures of school-level segregation are: (1) the percentage of black students in the respondent's high school; and (2) the percentage of the respondent's elementary education that took place in segregated black schools. Classroom-level segregation is operationalized using the track level of the respondent's twelfth-grade English class. Table 1 presents the results of the multilevel regression analysis of SAT scores.

Table 1: Coefficients for Multilevel Regression Model of SAT Total Battery Score, 1997 CMS Twelfth Graders

	β	St. Error
Race (African-American)	-40.475***	9.167
Gender (Female)	-52.746***	7.236
Family Background	16.240***	3.936
Cultural Capital	11.734**	4.121
Effort	-1.392	4.122
Prior Achievement	3.852***	.153
% Peers Going to College	1.638***	.432
Concrete Attitudes	17.182***	6.717
Abstract Attitudes	-12.286	8.933
College Track (Yes)	47.649***	4.192
% Segreg. Black Elem. Educ.	-.712**	.235
% Black in High School	-.841*	.419
Constant	833.747	
ρ	.027	
Notes:		
* = $p < .05$		
** = $p < .01$		
*** = $p < .001$		

The results show that both forms of segregation negatively affect SAT scores. Specifically, as the proportion of black students in a respondent's high school's student body increased, the respondent's SAT score tended to diminish;⁵⁸ the greater the proportion of elementary education spent in segregated black elementary schools, the lower the student's SAT score.⁵⁹ Racially-imbalanced high school tracks also affect scores.⁶⁰ The greater the proportion of white students in a classroom, the higher the classroom's track level. Higher level tracks have a positive effect on scores.

Table 1 also shows the effects of attitude, gender, race, prior achievement, effort, and family background on SAT scores. Being black⁶¹

⁵⁸ (-.841, $p < .05$). The value of the unstandardized regression coefficient for percent black in the high school is -.841. It is statistically significant at the $p < .05$ level. This means that for every increase in percent black in the student body of a high school, a respondent's predicted SAT score diminished by .841 of a point.

⁵⁹ (-.712, $p < .01$). The unstandardized regression coefficient for the proportion of segregated elementary education is -.712. It is statistically significant at the $p < .01$ level. This means that for every percent increase of elementary education that took place in a racially imbalanced black elementary school, a respondent's predicted SAT score diminished by .712 of a point.

⁶⁰ (47.649, $p < .001$).

⁶¹ (-40.475, $p < .001$).

and female⁶² negatively affect students' SAT scores. Students from higher socioeconomic backgrounds⁶³ and those with cultural capital⁶⁴ earn higher SAT scores. Prior achievement,⁶⁵ college-oriented peers,⁶⁶ and optimistic attitudes about education's role in one's future⁶⁷ all have positive effects on SAT scores. Self-reported effort and abstract attitudes have no effect.⁶⁸

The finding that both school- and classroom-level segregation negatively influence students' SAT scores is noteworthy, but incomplete. Merely showing the relationship between SAT scores and first- and second-generation segregation does not demonstrate how racial composition affects scores. The high school survey data permit an investigation of this relationship.

B. Opportunities to Learn

At the time of this study, CMS offered math, science, social studies, and English courses at five track levels, ranging from Regular (the least challenging level), Advanced, and Academically Gifted (AG) to Advanced Placement (AP) and International Baccalaureate (IB). AP and IB were the most challenging levels, although the Advanced and AG levels were also considered college preparatory. In large part, the track level of an academic course determined the scope and breadth of curricular coverage and the rigor

⁶² (-52.746, $p < .001$).

⁶³ (16.240, $p < .001$).

⁶⁴ (11.734, $p < .001$). For an explanation of cultural capital, see the appendix.

⁶⁵ (3.852, $p < .001$).

⁶⁶ (1.638 .001).

⁶⁷ (17.182, $p < .01$).

⁶⁸ These findings regarding the effects of school-level segregation are not entirely consistent with Card and Rothstein's study of relative SAT scores of a large, multiyear national sample of students. David Card & Jesse Rothstein, *Racial Segregation and the Black-White Test Score Gap* 3–5 (Princeton U. Indus. Rel. Sec., Working Paper No. 500, 2005), available at http://www.irs.princeton.edu/pubs/working_papers.html. Without controlling for neighborhood segregation, they found that school segregation was negatively associated with black students' SAT scores. *Id.* Once they controlled for neighborhood segregation and related factors, high school segregation effects on scores became statistically non-significant. However, they also argued that tracking offsets the integrative effects of between-school desegregation efforts, and may explain why differences in school segregation do not appear to influence black SAT scores. *Id.* When the CMS data collection for the study underlying this Article was conducted, the district was still operating under *Swann*'s mandate. Therefore the possible effects of neighborhood segregation on SAT scores—although unmeasured in this model—are attenuated by mandatory desegregation in CMS.

of instructional practices.⁶⁹ The higher the track, the deeper and more rigorous the curricula, and the more likely the teacher was to be certified, experienced, and teaching a subject in his or her field of expertise.⁷⁰

Table 1 indicates that high school tracks were one of the most important influences on SAT outcomes. To the extent that the race gap in CMS high school students' SAT scores is attributable to the underrepresentation of academically able blacks in higher level courses, a closer look at what predicts track placements is warranted.

C. Student Race, Segregation, and Track Placement

The findings from the multilevel ordered logistic regression analysis of higher (college) track placement appear in Table 2. They indicate that, after controlling for differences in family background, gender, effort, peer group influences, and prior achievement, there was a relationship between a student's race and track placement. Blacks were more likely than otherwise similar whites to be enrolled in lower tracks.⁷¹

⁶⁹ In one CMS high school, Kornhaber observed a ninth grade General English class where students were filling out a worksheet and cutting pictures from popular magazines, and a tenth grade IB English class where students were discussing Hannah Arendt's concepts of *vita activa* and *vita contemplative*. Kornhaber, *supra* note 45, at 118–21.

⁷⁰ OAKES, *supra* note 45, at 111; Linda Darling-Hammond, *Teacher Quality and Student Achievement: A Review of State Policy Evidence*, 8 EDUC. POL'Y ANALYSIS ARCHIVES 1, 6–13 (2000), available at http://depts.washington.edu/cptmail/PDFs/LDH_1999.pdf; see generally Richard M. Ingersoll, *The Problem of Underqualified Teachers in American Secondary Schools*, 28 EDUC. RES. 26, 30 (1999), available at <http://scholar.google.com/scholar?hl=en&lr=&c2coff=1&q=cache:oSYH2Z6CrZoJ:www.aera.net/epubs/ingsol3.pdf+%22underqualified+teachers+in+american+secondary+schools%22>.

⁷¹ (-.387, $p < .05$). All variables are defined in APPENDIX.

Table 2: Coefficient for Multilevel Logistic Regression Analysis of Higher (College) Track Placement, CMS Seniors, 1997 (N = 1253)		
	B	St. Error
Race (African American)	-.387 *	.180
Gender (Female)	.367 *	.167
Family Background	.316 ***	.089
Cultural Capital	.459 **	.177
Effort	.152	.092
Prior Achievement	.042 ***	.003
% Peers Going to College	7.853 ***	.992
Concrete Attitudes	.283 *	.147
Abstract Attitudes	.244	.195
% Segregated Black Elem. Educ.	-.021 ***	.004
Constant	-4.210 ***	.782
ρ	.109	
Notes:		
* = $p < .05$		
** = $p < .01$		
*** = $p < .001$		

Table 2 also shows that elementary school segregation adversely affects students' high school track placement. The more time students spent in segregated black elementary schools, the less likely they were to be assigned to higher track classes in high school, all else being equal.⁷²

A high level district administrator acknowledged that academically able blacks were disproportionately assigned to lower tracks in CMS. During a 1999 interview conducted by the author, this CMS administrator confided, "I know we do it, and I know it happens."⁷³ Neither awareness nor time effectively remedied this problem. In early fall 2001, it was revealed that several hundred CMS middle school students, a majority of whom were black, had been assigned to lower level classes even though they had scored at or above proficiency (some even excelled) on their previous year's standardized math tests. By order of the superintendent, the misplaced

⁷² This conclusion follows from the negative coefficient for the measure of elementary school segregation. (-.021, $p < .001$). The coefficient for the percent of segregated black elementary education represents the negative effects of each percent of elementary education spent in a segregated school on the likelihood of high school college-prep track placement. For every percentage increase in time spent in a segregated elementary school, the likelihood of college track placement diminishes.

⁷³ Interview with anonymous senior administrator in CMS, in Charlotte, N.C. (Nov. 1999).

students were later moved into higher-level reconstituted math classes. In an interview with the *Charlotte Observer*, the superintendent cited several reasons for the error, including racial stereotyping: “I think people need to face that there are issues of bias and prejudice that play into this.”⁷⁴

D. Course Selection and Access to Accurate Information

The fact that black students were more likely than their comparable white peers to be enrolled in lower level tracks requires an investigation of the high school course and track selection process. In CMS, as in most school districts, high school academic course selection and track placement decisions are the cumulative outcomes of many processes that unfold over the trajectory of a student’s academic career. While these processes are neither transparent nor standardized, course selection and track placement decisions involve, at a minimum, educators, parents, and students themselves. Families’ social networks, stock of knowledge and experiences, and socioeconomic and cultural backgrounds influence the course and track choices that families make (or the decisions that they accept). School officials, however, retain the preponderance of decision-making power for most students. Working within the specific organizational structure and normative climate of the school, these officials advise students and their parents, generate the documents sent home to assist families in making course choices, and act as gatekeepers of information and access to higher level courses.

One official component of the CMS course selection and placement process was the annual course offerings booklet. The booklet, which was sent to the home of every middle and high school student, listed the formal courses of study needed for graduation, explained the sequences of courses in every subject area, and provided a brief description of each course and, where applicable, its prerequisites. Interviews with educators, parents, and students revealed that the course offerings booklet was part of many families’ course selection process.

The prerequisites that accompanied courses identified as Academically Gifted (AG) are particularly noteworthy.⁷⁵ AG courses ranked in difficulty and prestige just below AP and IB courses. Students who completed courses at the AG level received an extra quality point when their GPA was

⁷⁴ Debbie Cenziper, *New Standards Hit Minorities Hard*, CHARLOTTE OBSERVER, Dec. 17, 2001, at A1.

⁷⁵ See generally CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, MIDDLE SCHOOL COURSE OFFERINGS 17 (1996) (on file with author); CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, HIGH SCHOOL COURSE OFFERINGS 17 (1996) (on file with author).

calculated.⁷⁶ Interview data indicated that the vast majority of parents and students believed that a student must have been officially certified as academically gifted in order to enroll in an AG level course,⁷⁷ and that a student who did not qualify for enrollment in an AG course certainly could not enroll in the more rigorous AP and IB courses.

These two beliefs were consistent with the information provided in the course offerings booklets. Figures 1 and 2 present pages from the 1996–1997 booklets for middle schools and high schools.


⁷⁶ In 1997, students who earned an A in a Regular or Advanced course received four quality points. Students who received an A in an AG level course earned five quality points, while those who received an A in AP or IB earned six quality points.

⁷⁷ Beginning in second grade, CMS students were screened for giftedness. If they were certified as Academically Gifted, they began to receive AG services (such as weekly supplemental classes or they were enrolled in separate gifted classrooms) from their school's AG teacher. When AG-certified elementary school students entered middle school, their certification signaled to counselors that they should be placed in an AG track for their core academic courses. For a detailed description and analysis of CMS's certification process and its implications for middle school and high school track placement, see Kornhaber, *supra* note 45, at 102–75.

Figure 1 shows the middle school math sequence.⁷⁸

1996-97 Middle School Course Offerings

Albemarle Road • Albemarle
Coulwood • Davidson
Hawthorne • Kennedy
Northeast • Northwest
Randolph • Randolph
South Charlotte • Spivey



MATHEMATICS

Computer Number: 2011
Course Name: MATHEMATICS
Prerequisite: None
Eligibility: 7, 8
Length of Course: Year

This course is designed to increase the skills of students in whole numbers, fractions, decimals, and percents. Applications and problem-solving will be emphasized.

Computer Number: 2012
Course Name: PREALGEBRA AG
Prerequisite: AG certification
Eligibility: 7
Length of Course: Year

Seventh-grade AG math is designed to provide both enrichment and acceleration within the normal sequence and structure of the mathematics curriculum. Special emphasis will be given to the development of skills in analytical problem-solving.

Computer Number: 2014
Course Name: ALGEBRA I-8 AG
Prerequisite: 7th grade Prealgebra AG and AG certification
Eligibility: 8
Length of Course: Year

Algebra I AG will extend the course curriculum for 8th grade Algebra I to develop within the student a greater knowledge and sophistication in mathematics. Special emphasis will be placed on developing the ability to use analytical and critical thinking skills in solving problems. Verbal and written skills will be used in presenting the strategies used to solve problems.

Computer Number: 2050
Course Name: PREALGEBRA
Prerequisite: None
Eligibility: 7, 8, 9
Length of Course: Year
Credit: 1

This course is designed for the student who has shown mastery of basic general mathematics skills. It will assist students in making the transition from general mathematics to Algebra I.

Computer Number: 2100
Course Name: ALGEBRA I
Prerequisite: Prealgebra or Mathematics
Eligibility: 8, 9
Length of Course: Year
Credit: 1

This course is designed for students who have a C or higher in prealgebra. This course will include the study of such topics as symbols, sets, variables, open sentences, equations, problem-solving, factoring, graphs, polynomials, and functions.

⁷⁸ Middle school track placement launches students on the high school track trajectory they are likely to follow until they graduate. Kornhaber, *supra* note 45, at 109; see also Susan Dauber et al., *Tracking and Transitions Through the Middle Grades: Channeling Educational Trajectories*, 69 SOC. OF EDUC. 290, 301 (1996); James E. Rosenbaum, *Track Misconceptions and Frustrated College Plans: An Analysis of the Effects of Tracks and Track Perceptions in the National Longitudinal Survey*, 53 SOC. OF EDUC. 74, 75-76, 85 (1980) (discussing how high school track placement is a determinant in college attendance).

Figure 2 presents the high school English sequence.

Charlotte-Mecklenburg Schools
1996-97
High School
Course Offerings

English

Computer Number: 1056
Course Name: ENGLISH HUMANITIES 11 ADV (one additional quality point)
Prerequisite: English 10
Length of Course: Year
Credit: 1
 The focus of this course is American literature, art, music, and history. Students read representative works of literature and history to discuss and evaluate critically in both written and oral forms. Students must also register for U.S. Humanities Advanced 4087 concurrently.

Computer Number: 1055
Course Name: ENGLISH 11 AG (one additional quality point)
Prerequisite: English 10 and AG certification ←
Length of Course: Year
Credit: 1
 This course provides an intensive study of American literature, grammar, composition, and research. The emphasis is on problem-solving and critical thinking skills.

Computer Number: 1042
Course Name: ENGLISH 12
Prerequisite: English 11
Length of Course: Year
Credit: 1
 This course emphasizes a study of selected British literature with appropriate writing assignments. It involves practical application of skills needed in daily communications.

Computer Number: 1057
Course Name: ENGLISH 12 ADV (one additional quality point)
Prerequisite: English 11
Length of Course: Year
Credit: 1
 This course provides an in-depth study of British literature with appropriate writing assignments. It is designed to prepare students for college English.

Computer Number: 1058
Course Name: ENGLISH 12 AG (one additional quality point)
Prerequisite: English 11 and AG certification ←
Length of Course: Year
Credit: 1
 This course is an intensive study of British literature with appropriate writing assignments. It stresses the development of thinking processes and the skills necessary for independent learning.

Computer Number: 1059
Course Name: ENGLISH 12 AP (two additional quality points)
Prerequisite: English 11
Length of Course: Year
Credit: 1
 This course is the equivalent of a freshman college course with in-depth study of British literature with related writing assignments. Content follows the outline provided in the AP bulletin. Students should be prepared to take the AP exam in May.

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Both course offerings booklets falsely informed students and parents that AG certification was a prerequisite for AG course enrollment and, by implication, for AP and IB course enrollment. In fact, AG certification was *not* required. CMS's official documents presented this incorrect, yet highly consequential, information to families.

The misinformation about AG course prerequisites was not related to the racial composition of schools per se. But it was a contributing factor in the creation of racially correlated academic classrooms. Interviews with parents and educators indicated that awareness that AG certification was not a prerequisite for enrollment in AG, AP, or IB courses was strongly linked to parents' social class and race. Parents who knew that AG certification was

not necessary for enrollment in the higher AG, AP, or IB tracks were overwhelmingly likely to be middle-class whites, although not all middle-class whites were so aware. Interviews indicated that parents' willingness to challenge school authorities' placement of children in lower tracks was related to the parents' awareness that AG certification was not a prerequisite for higher track enrollment. Many parents—even highly educated ones—erroneously believed that AG certification was necessary for enrollment in AG classes. This misperception created a problem for parents whose children were talented and uncertified, a group that was typically neither white nor middle class.

E. School Racial Composition and Access to AP Courses

In order to select a higher track course, such as AP courses, parents and students require accurate information about course sequences and prerequisites from official documents like the course offering booklets. But enrolling in high-track classes also requires that such courses be available at the schools students attend.

The availability of AP courses tends to vary with the racial composition of a high school.⁷⁹ Students who attend schools with few AP courses arguably do not have equal access to the opportunities to learn the formal curricula that appear on standardized tests like the SAT. For example, in 2000, the ACLU settled a lawsuit against the State of California and the Inglewood Unified School District (IUSD), a poor, minority school district in Los Angeles.⁸⁰ The suit was brought on behalf of two Inglewood High School students who wanted to take multiple AP classes but could not do so because their high school offered only three such courses, with none offered in either science or math.⁸¹ Inglewood High School was 97.4% black and Latino at the time of the suit. In contrast, 76.6% white Beverly Hills High School, located less than ten miles north of Inglewood High School, offered fourteen AP courses.⁸² The ACLU suit revealed that in California, high school racial composition was a major predictor of access to AP course

⁷⁹ OAKES, *supra* note 45, at 278–79; Harry Pachon & Maya Federman, *Addressing Institutional Inequities in Education: The Case of Advanced Placement Courses in California*, in *BRINGING EQUITY BACK* 142–44 (Janice Petrovich & Amy Stuart Wells eds., 2004).

⁸⁰ See Pachon & Federman, *supra* note 79, at 150.

⁸¹ Louis Sahagun & Kenneth R. Weiss, *Bias Suit Targets Schools Without Advanced Classes*, *LOS ANGELES TIMES*, July 28, 1999, at A1 (1999).

⁸² V. Dion Haynes, *Minorities Sue for Tougher Classes*, *CHI. TRIB.*, Aug. 6, 1999, at A3.

offerings, even after controlling for school size, community poverty level, and the degree to which the community was urban.⁸³

The relationship between school racial composition and AP course availability in California also existed in the Charlotte-Mecklenburg Schools in 1999. As Table 3 indicates, the fewer the blacks in a CMS school, the more AP classes were available in it. Enrolling in an AP-level course is not merely an opportunity to earn college credit while in high school, or a chance to enhance one's GPA with additional quality points, or a means of catching the eye of a college admissions officer reviewing high school transcripts. AP classes provide students with access to deep, broad, and rigorous treatment of a subject. Such treatment offers students opportunities to learn materials that are tested on the SAT. The fact that CMS offers fewer AP classes to students in schools with more blacks indicates that CMS offers racially-correlated opportunities to learn the more advanced curricular materials found on SAT exams.

⁸³ Pachon & Federman, *supra* note 79, at 142-44, 150-51. In 1976, the author of this Article undertook a study comparing segregated black Morningside High School, IUSD's other senior high school, to the overwhelmingly white Beverly Hills High School. See Roslyn A. Mickelson, *The Secondary School's Role in Social Stratification: A Comparison of Beverly Hills High School and Morningside High School*, 162 J. OF EDUC. 83 (1980). That investigation showed that, at the Advanced Placement or Honors levels, Beverly Hills High School offered twice as many science classes, six times as many foreign language and social studies classes, three times as many mathematics classes, and five times as many English classes as did Morningside High School. *Id.* at 90.

Table 3: Advanced Placement Course Offerings by CMS
High School Racial Composition, 1998–1999⁸⁴

School Rank by Percent Black	1998–1999 Percent Black	Number of AP Offerings
Providence	18 %	18
South Mecklenburg	28 %	15
North Mecklenburg	27 %	14
East Mecklenburg	32 %	14
Butler	34 %	*
Myers Park	34 %	20†
Independence	38 %	13
Northwest	41 %	10
Vance	45 %	*
Harding	47 %	13
Midwood ‡	48 %	n.a.
Olympic	50 %	7
West Mecklenburg	54 %	8
Garinger	61 %	8
West Charlotte	68 %	14 †
Learning Acad. ‡	83 %	n.a.
TAPS ‡	86 %	n.a.
Notes:		
† = Magnet program creates a racially identifiable white program in school		
‡ = Special school		
* = School opened with limited students body (grade 9) in 1997 – 1998		
n.a. = No information about AP programs available		

F. First-Generation Segregation Effects on Achievement

Findings presented earlier in Table 1 reported the effects of classroom- and school-level segregation on SAT scores. The next section presents the effects of segregation on high school grades and standardized test scores. Scores on North Carolina's standardized end-of-course (EOC) tests and cumulative high school grade point averages are two indicators of students' mastery of the formal curriculum. Moreover, EOC and SAT scores are strongly correlated.⁸⁵ The 1997 high school survey data permit an

⁸⁴ CMS INSTRUCTIONAL ACCOUNTABILITY, CHARLOTTE-MECKLENBURG SCHOOLS—ADVANCED PLACEMENT COURSES TAUGHT IN HIGH SCHOOLS (Sept. 9, 2000).

⁸⁵ The correlation factor is (.88). NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION, THE NORTH CAROLINA 1998 SCHOLASTIC ASSESSMENT TEST (SAT)

investigation of the individual, family, and school factors that contribute to the race gaps in students' grade point averages and EOC test scores.

The racial composition of the CMS elementary schools that students attended affected their mastery of the formal curriculum, as measured by their EOC scores and GPAs. Table 4 shows that a student's experiences with elementary school segregation diminished her or his achievement on EOC tests.⁸⁶ Enrollment in higher track courses had a positive effect on EOC scores.⁸⁷

Table 4: Standardized Coefficients for Multilevel Regressions, End-of-Course Scores and Weighted GPA, CMS Seniors, 1997				
	End-of-Course Scores (N = 1253)		Weighted Cumulative GPA (N = 1253)	
	β	St. Error	β	St. Error
Race (Black)	-4.100	2.262†	-.332	.037***
Gender (Female)	-9.666	1.997***	.043	.032
Family Background	1.130	1.048	.025	.016
Cultural Capital	2.313	2.058	.107	.033***
Effort	2.010	1.105†	.227	.077***
Prior Achievement	.441	.038***	.010	.000***
% College-Going Peers	31.705	11.420**	1.320	.183***
Concrete Attitudes	3.358	1.767*	.076	.028**
Abstract Attitudes	-3.009	2.323	.042	.037
College Track (Yes)	11.191	2.492***	.635	.040***
% Seg. Black Elem. Educ.	-.170	.055**	-.002	.000**
Constant	170.474		.986	
ρ	.001		.037	
Notes:				
†	p < .07			
*	p < .05			
**	p < .01			
***	p < .001			

Similarly, elementary school segregation resulted in diminished cumulative grade point averages, which were weighted for the extra quality

REPORT, ACADEMIC PREPARATION 10 (1998), available at http://www.ncpublicschools.org/sat98/sat_98_report.html#academic.

⁸⁶ (-.170 p < .01). This comparison controlled for prior achievement, family background, peer effects, effort, attitudes toward education, race, and gender.

⁸⁷ (11.191 p < .001).

points accrued from AG, AP, and IB courses.⁸⁸ Placement in higher tracks had a positive effect on weighted GPA.⁸⁹ Given that the higher tracks in CMS—AG, AP, and IB classes—invariably were racially imbalanced white,⁹⁰ these results indicate that after controlling for individuals' characteristics, prior achievements, and family backgrounds, students who learn in racially imbalanced black elementary schools and lower-level tracks during high school mastered less of the formal curriculum. Both school-level and classroom-level segregation negatively affect EOC test scores and high school grades.

VII. OPPORTUNITIES TO PREPARE FOR THE SAT

The results that are reported in sections IV, V, and VI of this Article demonstrate that having had the opportunity to learn, as part of a formal curriculum, the skills and strategies that are tested on the SAT was a critical component of students' scores. The previous section demonstrated how school and classroom racial composition affected opportunities to learn in CMS. This section demonstrates how opportunities to prepare for taking the SAT also influenced students' scores. The proliferation of private tutoring programs geared to increasing SAT scores attests to this claim, although serious questions remain about the efficacy of these programs.⁹¹

⁸⁸ (-.002 $p < .001$).

⁸⁹ (.635 $p < .001$).

⁹⁰ See e.g., Kornhaber, *supra* note 45, at 105; Mickelson, *supra* note 46, at 215–52.

⁹¹ For evidence in support of and against the value of coaching, tutoring, and cramming for the SAT, see Beverly P. Cole, *College Admissions & Coaching*, in *TESTING AFRICAN AMERICAN STUDENTS: SPECIAL REISSUE OF THE NEGRO EDUCATIONAL REVIEW* (A.G. Hilliard III ed., 1991); Betsy Jane Becker, *Coaching for the Scholastic Aptitude Test: Further Synthesis & Appraisal*, 60 REV. OF EDUC. RES. 373–417 (1990); John Cloud, *Inside the New SAT*, TIME, Oct. 27, 2003, at 48, available at <http://www.time.com/time/magazine/printout/0,8816,524393,00.htm>; William Grimes, *Ignorance is No Obstacle*, N.Y. TIMES, Nov. 7, 2004, at 4A; Sylvia T. Johnson & Michael B. Wallace, *Characteristics of SAT Quantitative Items Showing Improvement After Coaching Among Black Students From Low-Income Families: An Exploratory Study*, 26 J. OF EDUC. MEASUREMENT 139 (1989) (suggesting that performance on a broad range of SAT quantitative items can substantially improve with modest coaching); Kate S. Lombardi, *Ready, or Not. With Changes Looming on the SAT, Test Prep is More Frenzied Than Ever*, N.Y. TIMES, Nov. 9, 2003, at 13–14; Tony Schwartz, *The Test Under Stress*, N.Y. TIMES MAG., Jan. 19, 1999, at 30–36; see generally SARAH STOCKWELL ET AL., THE SAT COACHING COVER-UP: HOW TEST PREPARATION COURSES CAN RAISE SCORES BY 100 POINTS OR MORE AND WHY THE COLLEGE BOARD AND ETS DENY THE EVIDENCE (1991) (presenting evidence that demonstrates that SAT coaching works, and that ETS has suppressed studies on coaching's effectiveness).

Numerous private schools incorporated SAT preparation into their programs and, increasingly, public schools make SAT preparation available for their students. A 1999 survey of CMS principals investigated whether opportunities to prepare for the SAT were available to high school and middle school students in the district.⁹² The principals' responses indicated that no middle schools offered SAT preparation opportunities,⁹³ but some CMS high schools offered up to three types of opportunities. These included informal extracurricular gatherings of students and teachers for the explicit purpose of preparing prior to the exam, formal SAT preparation offered as an elective course, and private Kaplan SAT preparation courses.⁹⁴ The principals' surveys indicated that CMS-sponsored opportunities to prepare for the SAT varied with the racial composition of the high school, with more and better opportunities at schools with higher percentages of whites in the student body.

Table 5 indicates that the schools with no SAT preparation offerings were nontraditional schools with the highest concentration of black students in CMS. Comprehensive high schools with high concentrations of black students had the fewest offerings (either a single informal or formal course), while schools with the lowest concentration of blacks had the most opportunities to prepare for the test (typically, informal, formal, and Kaplan courses). Students who attended racially identifiable white schools, who by definition are more likely to be white, thus had access to far better SAT preparation opportunities than did students who attended racially-imbalanced black schools.

⁹² CMS had eleven regular high schools and four special high schools in 1997, the year that the high school survey data used in this Article were collected. By 1999, when the data regarding opportunities to prepare for the SAT were collected, the number of comprehensive high schools had grown to thirteen. Table 5 reports 1999 data.

⁹³ Northwest School of the Arts is both a middle school and a high school. The school's SAT preparation offerings were available to the high school students only.

⁹⁴ In 1999, Kaplan courses could cost up to \$800 on the private market. However, a few CMS high schools in white communities had arranged with Kaplan to provide courses to CMS students at a subsidized rate (\$400). One principal reported that his school offered scholarships for poor children who wanted to enroll in the Kaplan course. Principal Survey from Dr. James G. Knox III, Principal, South Mecklenburg High School (Jan. 21, 1999) (on file with author).

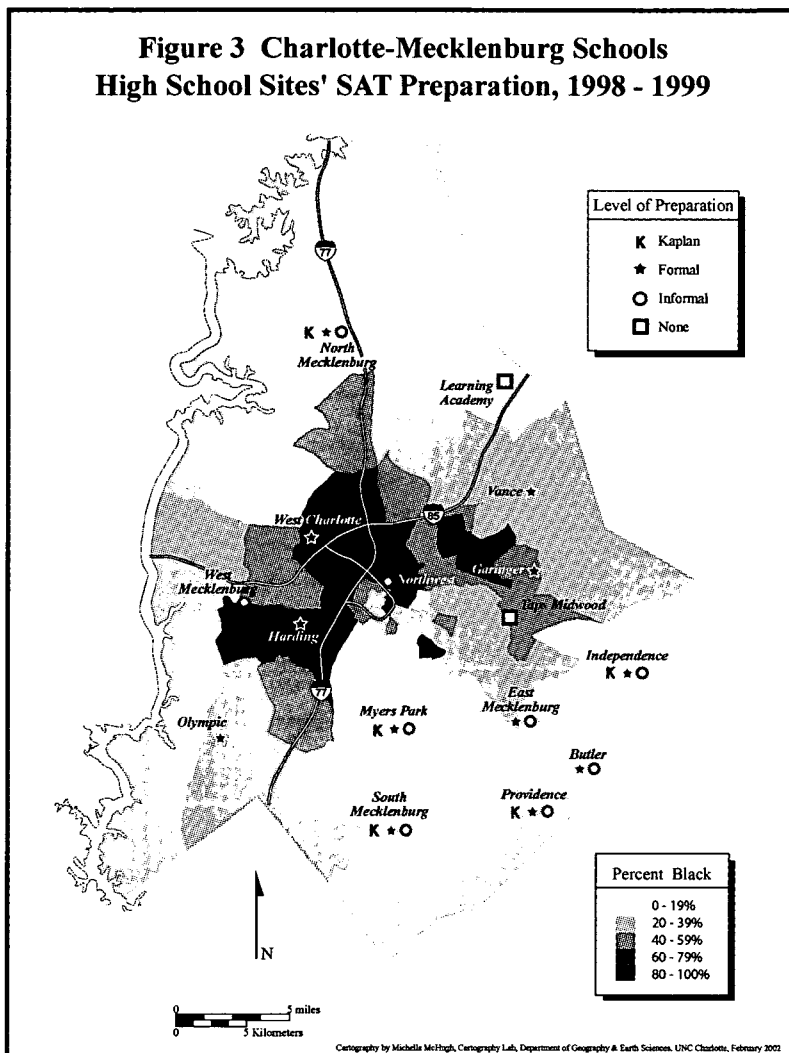
Table 5: SAT Preparation Offerings by CMS High School Racial Composition, 1998–1999 ⁹⁵				
Schools	% Black in School	Formal Course	Informal Cram Session	Kaplan Course
Providence	18 %	Yes	Yes	Yes
South Mecklenburg	28 %	Yes	Yes	Yes
North Mecklenburg	27 %	Yes	Yes	Yes
East Mecklenburg	32 %	Yes	Yes	No
Butler	34 %	Yes	Yes	No
Myers Park	34 %	Yes	Yes	Yes
Independence	38 %	Yes	Yes	Yes
Northwest†	41 %	No	Yes	No
Vance	45 %	Yes	No	No
Harding	47 %	Yes	No	No
Midwood‡	48 %	Yes	No	No
Olympic	50 %	Yes	No	No
West Mecklenburg	54 %	No	Yes	No
Garinger	61 %	Yes	No	No
West Charlotte	68 %	Yes	No	No
Learning Academy‡	83 %	No	No	No
TAPS‡	86 %	No	No	No
Notes:				
† = Performing arts grades 6–12 magnet school				
‡ = Special school				

Figure 3 illustrates these relationships. This map of CMS identifies the location of each of the district's seventeen high schools (thirteen comprehensive and four nontraditional schools), the racial composition of the neighborhood in which each school is located,⁹⁶ and the type of SAT preparation opportunities each school made available to its students in 1999. Figure 3 complements the data in Table 5 with neighborhood demographic information that captures the social context of the racially correlated variations in opportunities to prepare available in this "desegregated" school system.

⁹⁵ CMS Principals Survey 48 (1999).

⁹⁶ MECKLENBURG COUNTY ENGINEERING & BUILDING STANDARDS, DEMOGRAPHIC EMPLOYMENT & LAND DEVELOPMENT (DELD), CENSUS BLOCK DATA (CD-ROM, 1999).

**Figure 3 Charlotte-Mecklenburg Schools
High School Sites' SAT Preparation, 1998 - 1999**



VIII. SUMMARY AND CONCLUSION

As long as the SAT is widely used in higher education admissions decisions, it will be a critical component of the status attainment process and the intergenerational struggle to achieve the "American dream" through education. Race gaps in SAT scores complicate the status attainment process for blacks and other students from historically disadvantaged minority groups. The case study presented in this Article suggests reasons why any student who attends racially imbalanced black schools or learns in racially imbalanced black tracked academic classes is likely to earn lower SAT

scores than otherwise comparable peers whose public education took place in desegregated learning environments.

The results of the data analyses show that school and classroom racial composition have direct effects on SAT test performance. The results also suggest why: the black-white race gap in SAT scores reflects variations in opportunities to learn that are associated with the racial composition of schools and classrooms in which students learn. In addition, variations in opportunities to prepare for the test offered by the Charlotte-Mecklenburg School District also were correlated with the racial composition of schools and tracks in which students learn. Thus, even within this “desegregated” public school system, the greater the proportion of white students in the high school and the academic track, the better the opportunities available for students to enroll in Advanced Placement classes, to cover the formal curriculum in a deep and rigorous way, and to prepare for the SAT by enrolling in formal electives, informal cram sessions sponsored by the school, or school-sponsored Kaplan courses.

These findings indicate that SAT scores reflect as much about a student’s race and class privileges as they do about her or his achievement and likelihood of persistence in college. More broadly, the findings suggest that educational decision makers must be extremely careful in making high-stakes decisions based on standardized tests when the opportunities to learn the materials that appear on the tests are linked to the racial composition of the schools to which students are assigned and the tracks in which students learn. Segregation in public educational systems, along with other forms of unequal opportunities to learn, undermine the core assumption that standardized tests provide a valid, reliable, and fair basis for making high-stakes decisions about academic proficiency, graduation, access to gifted programs, or admissions to college.

Finally, the findings presented in this Article reveal aspects of the systematic processes that benefit certain students from advantaged racial and/or ethnic backgrounds—processes that constitute the deep structure of race privilege in education. The case study of CMS illustrates how such racist processes and practices can co-exist with other policies designed to effect greater educational equity. For example, racially correlated tracking that often isolated whites in top tracks and students of color in lower ones frequently was present in districts operating under court-mandated desegregation plans, an educational reform designed specifically to eliminate white race-based privileges accrued under de jure segregation.

School-sponsored opportunities to prepare for the SAT that vary with a school’s racial composition were more subtle indicators of white racial privilege in CMS. Racial disparities in opportunities to prepare for the SAT reflected more general racially correlated opportunities to learn in public schools. More precisely, attendance in segregated schools, ability grouping

and tracking practices, the varying availability of AP and other higher level courses, access to more rigorous curricula and better-qualified teachers, and access to crucial and accurate information about prerequisites for entry into higher level courses all constitute elements of race and class privileges in opportunities to learn.

Until similar in-depth, multi-method longitudinal case studies are conducted in other school systems, it will be difficult to discern whether the effects of segregation on the SAT scores of CMS students are unique or common to students throughout the United States. Until such time, this case study of segregation's effects on SAT performance in CMS can serve as a strategic example from which parents, educators, administrators, and legislators can draw implications. Implications from these findings for *Grutter's* twenty-five-year window⁹⁷ are straightforward and sobering. Unless and until racial segregation is eliminated root and branch from public K-12 education, affirmative action in higher education likely will remain necessary if this nation is to have an educated citizenry that looks like its population.

IX. APPENDIX: HIGH SCHOOL SURVEY METHODS AND DATA

A. Design

Much of the prior research on the effects of segregation and desegregation suffers from methodological problems, including small sample size, voluntary participation in desegregation, short "treatment" time, and lack of high-quality data as controls for such intervening forces as family background and individual and school characteristics.⁹⁸ The research that is the basis for this Article has none of these shortcomings.

Unlike studies based on national samples, there is little selection bias in the sample of the students and none in the sample of the schools. The large, representative sample of students was taken from a random sample of 1996–1997 senior English classes stratified by track (Regular through International Baccalaureate) and drawn from every high school in a single school system,

⁹⁷ *Grutter v. Bollinger*, 539 U.S. 306, 343 (2003).

⁹⁸ THOMAS COOK ET AL., U.S. DEPT. OF EDUC., SCHOOL DESEGREGATION AND BLACK ACHIEVEMENT 218–19 (1984) (Sup. Doc. No. ED 1.310/2:241671); Meredith Phillips et al., *Does the Black-White Test Score Gap Widen After Children Enter School?*, in THE BLACK-WHITE TEST SCORE GAP 229, 231 (Christopher Jencks & Meredith Phillips eds., 1998); Robert L. Crain & Rita E. Mahard, *The Effect of Research Methodology on Desegregation-Achievement Studies: A Meta-Analysis*, 88 AM. J. OF SOC. 839, 839–41 (1983); Amy S. Wells & Robert L. Crain, *Perpetuation Theory and the Long-Term Effects of School Desegregation*, 64 REV. OF EDUC. RES. 531, 535–36 (1994).

the Charlotte-Mecklenburg Schools. In addition, the design includes a longitudinal measure of each student's exposure to school-level segregation, operationalized as the percent of elementary education spent in segregated schools, a measure of high school segregation, and exposure to classroom-level segregation operationalized as high school English track level. Finally, the focus on a single district permits viewing the high schools—their processes and practices—and the students—their demographic distributions across schools and achievement outcomes—in their interdependent social, demographic, and political contexts. This perspective is not possible with national samples.

Like all research studies, this one has strengths and weaknesses. The case study's largest weakness derives from its limited external validity. Other in-depth longitudinal case studies of the relationship between SAT scores and segregation in similar school districts are needed before the findings can be generalized. The major strength of this case study lies in its internal validity, which rests on its multimethod, longitudinal research design. The breadth and depth of this study's investigation of school and classroom composition's influence on SAT scores delves far beyond mere correlations of school racial composition and test scores. The findings reveal the processes and organizational practices through which segregation affects SAT scores.

B. Data

The high school survey data employed in the regression analyses were collected in 1997. The survey instrument ascertained students' abstract and concrete attitudes towards education and the future, their educational and occupational aspirations, their demographic characteristics (age, race, gender), their family backgrounds (mother's and father's educational and occupational attainment), their self-reported effort, and their peer group's academic orientation. Multiple measures of achievement (CAT scores, EOC scores, SAT scores, and grade point averages), a history of the schools each student had attended, and a complete high school transcript were extracted from school system files and matched by confidential ID numbers to each student's survey responses. School-level variables, such as school racial composition, proportion of teachers with full licensure, and those with advanced degrees, were constructed using information from CMS district records. As noted in the text, the survey data were supplemented with school system aggregate data and with qualitative data, primarily from in-depth interviews with students, educators, and parents.

C. Sample

The student sample is composed of individuals enrolled in twelfth-grade English classes selected at random from every high school in CMS. The sample excludes CMS students who were enrolled in special education classes, special programs, or special schools. Because of the disproportionate number of black students in special education classes and special programs, the proportion of black students in the nonspecial education classes in the comprehensive high schools (31%) is less than the overall proportion black in the district (42%). The sample, therefore, is biased toward underestimating the effects of segregation and desegregation on black students' achievement.

English classes were used as the sampling frame because English is the only subject that all students must take each year. An examination of the respondents' high school transcripts indicated that their English track level corresponded highly with the track level of science, mathematics, and social studies classes. The sampling frame for selecting the classes was a list of all 1996–1997 twelfth-grade English courses, identified by track level, offered each period of the school day in each of the district's eleven regular senior high schools. The track level of a particular course was determined in consultation with CMS curriculum specialists and was guided by the 1996–1997 High School Course Offerings booklet.⁹⁹ At every school, at least one class from each of the four English track levels was included in the sample of classes. Thus, if a school offered four Regular English 12 classes, two were randomly selected and all students in each selected class were surveyed. To encourage high levels of participation among students in selected classes, respondents' names were entered into a lottery for cash prizes.

Approximately 95% of students enrolled in the selected English classes took the survey, resulting in a total sample of 1,833 respondents. Of these, there were 611 blacks (33.3%), 1,119 whites (61.1%), and 103 Asians, Latinos, and Native Americans (5.6%). Because the sample contains so few Asian, Latino, and Native American students, the analyses used data only for black and white students.

D. Dependent Variables

Using principal component analysis, the variable end-of-course (EOC) score was created as the weighted sum of students' U.S. History, Algebra 1,

⁹⁹ See CHARLOTTE-MECKLENBURG SCHOOL DISTRICT, HIGH SCHOOL COURSE OFFERINGS (1996) (on file with author).

and tenth-grade English EOC test scores.¹⁰⁰ EOCs are a standardized measure of mastery of the formal curriculum used since the early 1990s in accordance with North Carolina's statewide standards-based reform.¹⁰¹ U.S. History contributed 27.4%, Algebra 1 contributed 41.1%, and English 1 contributed 31.5% to the EOC score.

1. *Scholastic Assessment Test (SAT)*

Students' total SAT scores were treated as an indicator of achievement and mastery of the formal curriculum tested on the SAT.

2. *Weighted Grade Point Average*

Students' cumulative weighted GPAs were treated as an indicator of achievement and mastery of the formal curriculum of the high school.

3. *Track Level*

When twelfth graders' track level was used as a dependent variable in the multilevel ordered logistic regression, an ordinal measure of track placement was employed, coded (1) Regular, (2) Advanced, (3) Academically Gifted (AG), or (4) Advanced Placement/International Baccalaureate (AP/IB).¹⁰²

E. Independent Variables

1. *Race and Gender*

Race and gender were coded with a binary system. Blacks were coded as (1) and whites as (0). Females were coded as (1) while males were coded as (0).

¹⁰⁰ Principal component analysis is a method of transforming a given set of observed variables (in this case, the three separate EOC scores) into another variable or set of variables. The principal component analysis is a means of accounting for as much variance in the data as possible in the most efficient way. The EOC score variable was created as follows: $.274 \times \text{U.S. History EOC score} + .411 \times \text{Algebra 1 EOC score} + .315 \times \text{English 10 EOC score}$. The weights were chosen in such a way that the weighted sum (the EOC score variable) has a maximum averaged squared correlation with each of the individual test scores.

¹⁰¹ NORTH CAROLINA DEPARTMENT OF PUBLIC INSTRUCTION, EVOLUTION OF THE ABCs, EXECUTIVE SUMMARY 5 (2004), available at http://abcs.ncpublicschools.org/abcfiles04/executive_sum04.pdf.

¹⁰² See *supra* Table 2.

2. *Family Background*

A composite measure of family background was created from indicators of mother's and father's educational and occupational attainment. Parents' occupational attainments were coded using the Nakao-Treas Occupational Prestige Index.¹⁰³ Educational attainment scores ranged from (1) less than high school, to (5) graduate school degree.

3. *Prior Achievement*

Students' sixth grade California Achievement Test (CAT) total language battery score was used as an indicator of early achievement. The analyses used a centered CAT variable that converted a student's score into a deviation from the student's elementary school mean.¹⁰⁴

Centering the CAT scores created a standardized variable that was a virtual ranking of students' scores within the elementary schools attended. The centered CAT score measured the student's prior achievement relative to the achievement of others in the same school. Centering the CAT scores on the students' elementary school mean CAT scores removes the effects of attending different elementary schools on students' scores.

4. *Cultural Capital*

The formal curriculum and social relations among the students and adults in schools reflect norms, values, formal knowledge, artistic and musical heritage, and language of high status members of a society. Students who come from homes that also share this cultural orientation and knowledge possess cultural capital. Students with cultural capital tend to perform better in schools. To measure students' cultural capital, students were asked whether they had received private art, music, or dance lessons during the previous three years. This construct captured students' access to high-status cultural resources that are distinct from socioeconomic status. Students responses were coded as either (1) yes, or (2) no. The variable was an indicator of families' explicit attempts to expose their children to high culture, which is one important aspect of cultural capital.¹⁰⁵

¹⁰³ The Nakao-Treas Index assigns a score to a given occupation that is based on the average education, income, and prestige that is associated with it.

¹⁰⁴ See generally ITA KREFT & JAN DE LEEUW, *INTRODUCING MULTILEVEL MODELING* (1998).

¹⁰⁵ See, e.g., PIERRE BOURDIEU, *OUTLINE OF A THEORY OF PRACTICE* 89, 182-84 (1977); PIERRE BOURDIEU & JEAN CLAUDE PASSERON, *REPRODUCTION IN EDUCATION*,

5. *Effort*

Students' self-reported estimate of the amount of effort they usually put into their schoolwork. Choices ranged from (1) "just enough to get by," to (5) "as much effort as possible all the time."

6. *Percent Peers Going to College*

The proportion of each respondent's close friends who were planning to attend a four-year college after high school was an indicator of peer group influence on academic performance.

7. *Track Level*

When track level was employed as an independent variable in the regressions, a dichotomous measure of students' English placement was used. Individuals enrolled in Advanced, AG, or AP/IB English, the college-bound tracks, were coded (1), while those enrolled in Regular English, the noncollege-bound track, were coded (0).¹⁰⁶

8. *Abstract Attitudes Towards Education*

Abstract attitudes about education reflect the core ideology of the American dream: that opportunity through education exists for everyone, that education is the solution to most individual and social problems, and that an individual's educational credentials are evaluated by the larger society according to merit. These attitudes were measured by Likert-scaled belief statements scored from (5) strongly agree, to (1) strongly disagree. The higher the score, the more positive was the student's abstract attitudes.

9. *Concrete Attitudes Toward Education*

Students' concrete attitudes toward education may be similar to or different from their abstract beliefs. Concrete attitudes are grounded in material realities and are shaped by forces related to race, ethnicity, and

SOCIETY, AND CULTURE 30–32, 47 (Richard Nice trans., 1977); GEORGE FARKAS, HUMAN CAPITAL OR CULTURAL CAPITAL? ETHNICITY AND POVERTY GROUPS IN AN URBAN SCHOOL DISTRICT 10 (1996); Paul DiMaggio & John Mohr, *Cultural Capital, Educational Attainment, and Marital Selection*, 90 AM. J. OF SOC. 1231, 1233 (1985) (providing empirical evidence of cultural capital's effects on achievement); Susan A. Dumais, *Cultural Capital, Gender, and School Success: The Role of Habitus*, 75 SOC. OF EDUC. 44, 54 (2002).

¹⁰⁶ See *supra* Tables 1 & 4.

class. Family and community experiences with education and opportunity also shape adolescents' concrete attitudes. Whereas abstract attitudes cannot predict achievement because they do not vary, concrete attitudes do predict academic outcomes. They indicate adolescents' perceptions of their own location in the opportunity structure and how that structure influences their educational outcomes.¹⁰⁷ Concrete attitudes were measured using Likert-scaled belief statements scored from (5) strongly agree, to (1) strongly disagree. The higher the score, the more positive the student's concrete attitudes.

10. *Percent of Elementary Education in a Segregated School*

This is a measure of students' exposure to first-generation segregation. Based on information on students' educational history in CMS, each school a student had attended was coded for its racial composition in the year(s) the student attended. Following CMS's longstanding practice, a racially imbalanced black elementary school was defined as one whose minority enrollment exceeded by more than 15% the system-wide black elementary school enrollment. Exposure to first-generation segregation was measured by counting the total years (K-6) a student had spent in a racially imbalanced black elementary school in CMS. That sum was then calculated as a proportion of the total years the student had spent in CMS elementary schools.

11. *Percent Black in High School Student Body*

This variable was used as a direct measure of high school segregation.

F. *Analyses*

Multilevel modeling was used to address the possible relationship between students' outcomes and the characteristics of schools that they attended. Multilevel regression analyses captured both within- and between-school variation in outcomes,¹⁰⁸ thus enabling estimation of individual students' outcomes as a function of school-level factors and characteristics of students within the schools. The between-school and within-school

¹⁰⁷ See Roslyn A. Mickelson, *Why Does Jane Read and Write So Well?: The Anomaly of Women's Achievement*, 62 SOC. OF EDUC. 43, 43 (1989); Roslyn A. Mickelson, *The Attitude-Achievement Paradox Among Black Adolescents*, 63 SOC. OF EDUC. 44, 44 (1990).

¹⁰⁸ See generally KREFT & DE LEEUW, *supra* note 104.

components of the explained variance in SAT and EOC scores and weighted cumulative grade point average were modeled using STATA statistical software to perform multilevel regressions with random intercepts.¹⁰⁹ A multilevel ordered logistic regression analysis was used to model track placement.

¹⁰⁹ See generally SOPHIA RABE-HESKETH & BRIAN EVERITT, A HANDBOOK OF STATISTICAL ANALYSIS USING STATA (1999); Stata Statistical Software: Release 8 (StataCorp. CD-ROM, 2003).

